

Listing of Claims:

1. (currently amended) A method comprising:
identifying a previously-generated bitrate histogram of bitrate as a function of time associated with a multimedia content program to be transmitted to a multimedia node; and
changing a bandwidth allocation for the multimedia node in anticipation of a future bitrate spike indicated in the bitrate histogram for said multimedia program.
2. (currently amended) The method as in claim 1 wherein identifying comprises:
locating said bitrate histogram in a database of previously-generated bitrate histograms using multimedia content identification data.
3. (currently amended) The method as in claim 2 wherein said identification data is a serial number associated with said multimedia program content.
4. (currently amended) The method as in claim 2 wherein said identification data is a checksum of a known unique portion of said multimedia program content.
5. (original) The method as in claim 2 wherein said database is maintained on a remote server.

6. (currently amended) The method as in claim 1 further comprising:
filling an input buffer at said multimedia node by a particular amount in
anticipation of the future bitrate spike indicated in said bitrate histogram.
7. (currently amended) The method as in claim 6 wherein filling said input
buffer comprises increasing a transmission bitrate of the multimedia program content
to a second, higher bitrate.
8. (currently amended) A method for providing efficient bandwidth
allocation on a bandwidth-limited network comprising:
receiving a request for a previously-encoded multimedia program content
from a first multimedia node;
allocating a first amount of bandwidth to supply said multimedia program
content to said multimedia node; and
dynamically adjusting said first amount of bandwidth based on a previously-
generated template of bitrate data as a function of time indicating changes in bitrate
requirements of said multimedia program content, wherein said adjusting is done
prior to the occurrence of said changes.
9. (previously presented) The method as in claim 8 wherein said template
of bitrate data as a function of time is retrieved from a template database.

10. (currently amended) The method as in claim 9 wherein said template of bitrate data as a function of time is identified in said template database using identification data associated with said multimedia program content.

11. (currently amended) The method as in claim 10 wherein said identification data is a serial number associated with said multimedia program content.

12. (currently amended) The method as in claim 8 further comprising: dynamically adjusting said first amount of bandwidth based on a template of bitrate data as a function of time indicating changes in bitrate requirements of a multimedia program content requested by a second multimedia node.

13. (currently amended) The method as in claim 8 wherein said multimedia program content is a digital video disk ("DVD").

14. (currently amended) The method as in claim 8 wherein said first amount of bandwidth is dynamically adjusted upward to fill a buffer at said first multimedia node by a particular amount in anticipation of an increase in bitrate requirements for said multimedia program content.

15. (currently amended) The method as in claim 12 wherein said first amount of bandwidth is dynamically adjusted upward to fill a buffer at said first

multimedia node by a particular amount in anticipation of an increase in bitrate requirements for the multimedia program content transmitted to said second multimedia node.

16. (currently amended) The method as in claim 8 wherein said first amount of bandwidth is maintained until a buffer at said first multimedia node is filled with at least a portion of said multimedia program content.

17. (original) The method as in claim 16 wherein said first amount of bandwidth is maintained until another multimedia node requires additional bandwidth.

18. (currently amended) A system comprising:
a home media server configured to allocate a first amount of bandwidth to supply a previously-encoded multimedia program content to a first multimedia node and to dynamically adjust said first amount of bandwidth based on a histogram of bitrate data as a function of time indicating changes in bitrate requirements of the multimedia program over time content, wherein the first amount of bandwidth is dynamically adjusted prior to the occurrence of said changes.

19. (currently amended) The system as in claim 18 wherein said home media server retrieves said histogram based on identification data associated with said multimedia program content.

20. (currently amended) The system as in claim 19 wherein said identification data is a serial number associated with said multimedia program content.

21. (currently amended) The system as in claim 18 wherein said home media server is further configured to:

dynamically adjust said first amount of bandwidth based on a histogram of bitrate data indicating changes in bitrate requirements of a multimedia program content requested by a second multimedia node.

22. (original) The system as in claim 18 wherein said multimedia content is a digital video disk ("DVD").

23. (currently amended) The system as in claim 18 wherein said home media server is further configured to dynamically adjust said first amount of bandwidth upward to fill a buffer at said first multimedia node by a particular amount in anticipation of an increase in bitrate requirements for said multimedia program content.

24. (currently amended) The system as in claim 18 wherein said home media server is further configured to dynamically adjust said first amount of bandwidth upward to fill a buffer at said first multimedia node by a particular amount

in anticipation of an increase in bitrate requirements for a multimedia program content transmitted to a second multimedia node.

25. (currently amended) The system as in claim 18 wherein said home media server is further configured to maintain said first amount of bandwidth until a buffer at said first multimedia node is filled with at least a portion of said multimedia program content.

26. (original) The system as in claim 18 wherein said home media server is further configured to maintain said first amount of bandwidth until another multimedia node requires additional bandwidth.

27. (currently amended) A method comprising:
identifying a previously-generated bitrate histogram associated with a previously-encoded multimedia program content to be transmitted to a multimedia node; and
delaying a start time for the multimedia program content on the multimedia node for a particular period in anticipation of a future bitrate spike indicated in the bitrate histogram.

28. (currently amended) The method of claim 27, wherein delaying comprises pre-buffering a particular amount of the multimedia program content at the

multimedia node in order to accommodate the future bitrate spike without interruption of the multimedia program content.

29. (currently amended) A method for providing efficient bandwidth allocation on a bandwidth-limited network comprising:

receiving a request for a first set of multimedia program content from a first multimedia node;

identifying a first bitrate histogram associated with the first set of multimedia program content;

allocating a particular amount of bandwidth to supply the first set of multimedia program content to the first multimedia node based on the first bitrate histogram;

identifying a second bitrate histogram associated with a second set of multimedia program content to be transmitted to a second multimedia node, the second bitrate histogram indicating a future spike in bandwidth requirements for the second set of multimedia program content; and

throttling back the bandwidth allocated to the first set of multimedia program content just prior to encountering the bandwidth spike associated with the second set of multimedia program content at a time sufficient to fill a buffer of the first multimedia node.